ANNEX 25-DISS-M2-565

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Art. 1 - Type

The University of Pavia has activated a **second level Post-Master Vocational Program** in **Integrated Circuit Design** at the **DEPARTMENT OF INDUSTRIAL AND INFORMATION ENGINEERING** in partnership with **Chips-IT Foundation**, for the 2025/26 academic year.

Edition: 1

Disciplinary area: SCIENTIFIC AND TECHNOLOGICAL AREA

Art. 2 - Training objectives, job opportunities and course appeal

The Post-Master Vocational Program aims to **provide solid skills in the field of Microelectronics** to individuals who are already knowledgeable in this area and individuals who have not gained insights into these topics, even though they may have developed similar skills. The course is designed to **broaden the training offered in the field of Microelectronics**, in light of the increasing diffusion of microelectronic devices in systems of all kinds (domestic, industrial, etc.).

The purpose of the Vocational Program is to **create an increasingly wide and international collaboration networking in the field of Microelectronics, with Pavia acting as a key hub**, given the presence of:

- a *Doctorate of National Interest in Micro- and Nano-Electronics*
- the Chips-IT Foundation
- the University-led Microelectronics District Partnership, involving major national and international companies, such as Allegro Microsystems, Ams-OSRAM Italy, Analog Devices, ASR Microelectronics, Cadence, Eskube, Marvell, Huawei, Infineon Technologies Italy, Invensense-TDK Italy, Inventvm Semiconductor, Monolithic Power Systems, NXP, On- Semi, Orca Semiconductor, Photeon Technologies, Renesas, Siae Microelectronica, Siemens, Synopsis and STMicroelectronics.

The Vocational Program will be taught entirely in English, with internationally renowned lecturers.

Graduates of the Vocational Program will be qualified to work in all institutions involved in integrated circuit development, including:

- universities
- research centres
- Microelectronics companies, with the Milan-Pavia area being home to a large number of them,

making the course unique at an European level.

Art. 3 - Program's curriculum

The **one-year** Vocational Program comprises a total of 1,500 hours, broken down according to the table below.

The set of planned training activities is designed to enable course partcipants to acquire 60 university credits (CFU).

The teaching modules are organized as follows and will be taught in **English**:

Module	SSD	Lenguage	L(h)	STD(h)	OL(h)	EX(h)	Tot(h)	CFU
1) RF DESIGN								
Introduction	IINF-01/A | Electronics	English	24	51	0	0	**75**	**3**
	Contents: • Basics of RF Circuits.							
Case 1	IINF-01/A | Electronics	English	16	34	0	0	**50**	**2**
	Contents: • Design Consideration for the Development of an LNA&Mixer Block.							

Case 2	IINF-01/A | Electronics	English	16	34	0	0	**50**	**2**
	Contents: • Design Consideration for the Development of a Frequency Synthesizer Block.								
Lab	IINF-01/A | Electronics	English	0	65	0	60	**125**	**5**
	Contents: • Laboratory Experience in RF Design.								
2) MIXED-SIGNAL DESIGN									
Introduction	IMIS-01/B | Electrical and electronic measurements	English	24	51	0	0	**75**	**3**
	Contents: • Basics of Mixed-Signal Circuits.								
Case 1	IMIS-01/B | Electrical and electronic measurements	English	16	34	0	0	**50**	**2**
	Contents: • Design Consideration for the Development of an ADC.								
Case 2	IMIS-01/B | Electrical and electronic measurements	English	16	34	0	0	**50**	**2**
	Contents: • Design Consideration for the Development of a DC-DC Converter.								
Lab	IMIS-01/B | Electrical and electronic measurements	English	0	65	0	60	**125**	**5**
	Contents: • Laboratory Experience in Mixed-Signal Design.								
3) DIGITAL DESIGN									
Introduction	IINF-01/A | Electronics	English	24	51	0	0	**75**	**3**
	Contents: • Basics of Digital Circuits and Systems.								
Case 1	IMIS-01/B | Electrical and electronic measurements	English	16	34	0	0	**50**	**2**
	Contents: • Design Consideration for the Development of a Digital Block no. 1.								
Case 2	IINF-01/A | Electronics	English	16	34	0	0	**50**	**2**
	Contents: • Design Consideration for the Development of a Digital Block no. 2.								
Lab	IINF-01/A | Electronics	English	0	65	0	60	**125**	**5**
	Contents: • Laboratory Experience in Digital Circuits and Systems.								
4) CAD	IINF-01/A | Electronics	English	24	51	0	0	**75**	**3**
	Contents: • Expert of CAD								
5) ANALOG SIGNAL PROCESSING	IINF-01/A | Electronics	English	16	34	0	0	**50**	**2**
	Contents: • Use of different Analog Signal Processing Techniques.								
6) INTEGRATED CIRCUIT TECHNOLOGIES	IINF-01/A | Electronics	English	32	68	0	0	**100**	**4**
	Contents: • Different Features for Different Applications.								
7) IC MANAGEMENT AND BUSINESS ORGANIZATION	IMIS-01/B | Electrical and electronic measurements	English	16	34	0	0	**50**	**2**
	Contents: • Management Aspects of the Development and Production of an IC.								
	PARTIAL		**256**	**739**	**0**	**180**	**1175**	**47**
Internship/Stage		English					**300**	**12**

Final exam		English		25	1
			TOTAL	**1500**	**60**

L *Lectures*; STD *Study*; OL *Online lessons*; EX *Exercises, practical activities.*

Participation by students in the various training activities will be structured as follows:

- online participation is planned for the first two periods
- in-person participation in Pavia is planned for the third period for intensive design workshops. During this phase, highly advanced, qualified, and well-recognized teaching and research workshops will be organized in Italy and abroad at the Department of Industrial and Information Engineering
- during the fourth period, in-person participation is expected as part of an internship to be carried out at a partner company of the Vocational Program.

The training period may not be suspended.

Transfers to similar Vocational Programs at other universities are not allowed.

Art. 4 - Progressive knowledge checks

Learning assessment will be verified through a test at the end of each module. Progress tests and the final test will not be graded.

Art. 5 - Final degree examination and achievement of qualification

The final exam will consist of the **presentation and discussion of a thesis**, which is the result of the internship activity. No mark or merit grade will be awarded for this examination.

At the end of the Vocational Program, participants who have completed all the activities and fulfilled the requirements will be awarded the **second-level Post-Master Vocational Program's Diploma in "Integrated Circuit Design"**.

Art. 6 - Faculty

Teaching will be held by faculty from the University of Pavia, and from other universities e as well as by highly-qualified professional experts.

Art. 7 - Admission requirements

The Vocational Program is intended for students who have obtained a **Master's Degree**, in accordance with the Ministerial Decree No. 270/04, **in one of the following classes**:

- (LM-20) Master's Degrees in Aerospace and Astronautical Engineering
- (LM-21) Master's Degrees in Biomedical Engineering
- (LM-25) Master's Degrees in Automation Engineering
- (LM-27) Master's Degrees in Telecommunications Engineering
- (LM-28) Master's Degrees in Electrical Engineering
- (LM-29) Master's Degrees in Electrical Engineering
- (LM-30) Master's Degrees in Energy and Nuclear Engineering
- (LM-31) Master's Degrees in Management/Industrial Engineering
- (LM-32) Master's Degrees in Computer Engineering.

The Vocational Program is intended for students who have obtained a **Master's Degree**, in accordance with the Ministerial Decree No. 509/99, **in one of the following classes**:

- (25/S) Master's Degrees in Aerospace and Astronautical Engineering
- (26/S) Master's Degrees in Biomedical Engineering
- (29/S) Master's Degrees in Automation Engineering
- (30/S) Master's Degrees in Telecommunications Engineering
- (31/S) Master's Degrees in Electrical Engineering
- (32/S) Master's Degrees in Electrical Engineering
- (33/S) Master's Degrees in Energy and Nuclear Engineering
- (34/S) Master's Degrees in Management/Industrial Engineering
- (35/S) Master's Degrees in Computer Engineering.

Diplomas **awarded under the previous system** that are **equivalent to the above-mentioned degrees** are also accepted.

Candidates holding a **degree obtained abroad deemed equivalent to the degree classes stated above** may also be admitted.

The maximum number of places available is **25**.

The minimum number of participants to activate the course is **8**.

The Academic Board will also be able to assess whether the conditions for expanding the maximum number of participants are met.

If the number of applicants exceeds the expected maximum, a selection committee comprising the Coordinator and two Faculty members will be formed to select applicants and create a merit list, expressed in **thirtieths**. This list will be determined on the basis of the following evaluation criteria:

1) Up to a maximum of 10 points for the degree grade, broken down as follows:

- 2 points for a grade < di 90/110
- 3 to 5 points for a degree grade from 90/110 to 99/110
- 6 to 9 points for a degree grade from 100/110 to 110/110
- 10 points for a grade equal to 110/110 cum laude.

2) Up to a maximum of 5 points for each relevant qualification, broken down as follows:

- 1 point for a PhD
- 1 point for a Post-Bachelor/Master Vocational Program
- up to 2 points for scientific publications (with relevant list)
- 1 point for other qualifications or documents deemed useful by the applicant that may qualify their academic experience.

3) Up to a maximum of 15 points for an individual interview in English aimed at assessing the **applicant's skills, abilities and motivation** in relation to the contents and specific objectivesof the Vocational Program. Special emphasis will be placed on any professional experience in the field, curriculum vitae et studiorum and references from referees, if any. The interview may also be conducted using suitable IT tools that ensure the applicant identification. For an interview to be considered successful, a score of **at least 9 out of 15 points** is required.

In case of equal merits, young age will prevail in the ranking. In case of withdrawal of one or more candidates, the vacant place/places will be made available to the next candidate in the ranking, up to the coverage of all available places.

Art. 8 - Deadline for the online application process

Applicants must submit their application for admission in accordance with the procedures, set out in the Call for Admission, from **10/11/2025** and by the deadline of **12/01/2026**. All the requirements set out in the Call for Admission and this Annex, must be met by the application deadline.

Art. 9 - Annexes for the online application process

Applicants must attach, during the online application, the scan of the following documentation:

1) **application form** (the form at the end of this Annex)
2) (front-rear) **personal identification document** inserted during registration
3) **CV** listing also professional experiences in working environments pertaining the above course, if any
4) **certifications** proving knowledge and proficiency in the **English language**, if any

ONLY FOR APPLICANTS WITH AN ITALIAN ACADEMIC TITLE:
5) **self-declaration of the passed exams** during the academic career reading relevant marks

ONLY FOR APPLICANTS WITH A FOREIGN ACADEMIC TITLE:

5) **Academic qualification required for admission** issued in English/Spanish/French or officially translated in Italian
6) **Transcript of records** (list of and relevant marks) issued in English/Spanish/French or officially translated in Italian

And also, if already available:

- **Declaration of Value (DoV)** *issued by the Italian embassy/consulate*
- *or* **CIMEA Statement of Comparability**
- *or* **Diploma Supplement** *(if the foreign qualification is issued by an european university)*
- **Statement of Correspondence** *which can be downloaded from the* **Automatic Recognition Database (ARDI).**

The aforementioned documents must be uploaded within the period referred to in art. 8.

Please note that, as indicated in art. 3 of the Call for Admission to the Vocational Programs, **applicants holding a qualification obtained abroad must**, __by the enrollment deadline__ according to the calendar published by the Organizational Secretary of the Vocational Program, **deliver the following documentation in original**:

1. **Academic qualification** required for admission issued in English/Spanish/French or officially translated in Italian

   - **LEGALISED** by **the Italian embassy/consulate in your country** (legalisation is NOT required for Belgium, Denmark, the United Kingdom of Great Britain and Ireland, France, Ireland and Germany OR for documents with an electronic/digital means of ascertaining its authenticity as QR code/string code)
     PLEASE NOTE: legalisation must refer to the document not the translation
   - or **APOSTILLED** (the apostille is **only available** for the signatory countries to the **Hague Convention**)
   - or **ACCOMPANIED** by **CIMEA Statement of Verification**.

2. **Transcript of records** (list of and relevant marks) issued in English/Spanish/French or officially translated in Italian

3a. **IF your title HAS NOT been obtained** in one of the Countries that are signatories to the **Lisbon Recognition Convention**

   - **Declaration of Value (DoV)** issued by the Italian embassy/consulate
   - or **CIMEA Statement of Comparability**
   - or **Diploma Supplement** (*if the foreign qualification is issued by an european university*).

3b. **IF your title HAS been obtained** in one of the Countries that are signatories to the **Lisbon Recognition Convention**

   - **Statement of Correspondence** which can be downloaded from the **Automatic Recognition Database (ARDI).**

Enrollment to the Vocational Program will be finalized ONLY upon delivery of this documentation.

Art. 10 - Tuition and fees

Enrollment

Students enrolling in the Vocational Program, for the 2025/2026 acadmic year, must pay the amount of **€ 6,000**, inclusive of: € 16,00 (stamp duty tax) and € 200,00 (administrative fees).

This amount must be paid in **2 instalments**:
- 1° instalment of **€ 3,900**, to be paid **upon enrollment**
- 2° instalment of **€ 2,100**, to be paid by **30** of **September 2026.**

External national or international organisations or bodies may contribute to the conduct of the master's course by providing scholarships for enrolment/internship attendance. Should such agreements be finalised, they will be posted on the Vocational Program's website, along with the award criteria.

Final exam

In order to be admitted to the final exam, candidates must submit a specific application form along with the payment of 116,00 as a fee for the issuance of the Vocational Program's Diploma (including n° 2 stamp duty tax of 16,00 paid virtually: one for the parchment and one for the application). The cost of the parchment could be updated by resolution of the Board of Directors after the publication of this notice.

Art. 11 - Web site and Organizational Secretary contacts

Any communication and important information regarding candidates and students will be published on the following website: https://iii.dip.unipv.it/it/didattica/master

For information regarding the course organization:

Organizational Secretary

The Organizational Secretary will be based at:

Dipartimento di Ingegneria Industriale e dell'Informazione
Via A. Ferrata, 5 - 27100 Pavia (PV)
E: nicoletta.galli@unipv.it
PH: + 39 0382.98.5898.

LThe contact person is **Mrs. Nicoletta Galli**.

APPLICATION FORM
to the II level POST-MASTER VOCATIONAL PROGRAM:
INTEGRATED CIRCUIT DESIGN
(this form, duly filled in, <u>must be uploaded in the on-line procedure of admission</u> to the Post-Master Vocational Program as per issue n°9 of the annex to the relevant call for admissions)

The undersigned (FORENAME, SURNAME) ....

Date of birth .... City .... State ....

State of residence .... Permanent address ....

E-mail ....

APPLIES
for admission to the aforementioned Post-Master Vocational Program
and **UPLOAD**
the scan of the following documents **to be submitted mandatorily for the application evaluation**:

1) front-rear of the **personal ID document/passport** uploaded during the on-line registration procedure

2) **CV** listing also professional experiences in working environments pertaining the above course, if any

3) certifications proving knowledge and proficiency in the English language, if any

<u>ONLY FOR APPLICANTS WITH AN ITALIAN ACADEMIC TITLE:</u>
4) **self-declaration of the passed exams** during the academic career reading relevant marks

<u>ONLY FOR APPLICANTS WITH A FOREIGN ACADEMIC TITLE:</u>
4) **academic qualification required for admission** issued in English/Spanish/French or officially translated in Italian

- **LEGALIZED** by the Italian embassy/consulate in your country (legalisation is not required for Belgium, Denmark, the United Kingdom of Great Britain and Ireland, France, Ireland and Germany OR for documents with an electronic/digital means of ascertaining its authenticity as QR code/string code)
  PLEASE NOTE: legalization must refer to the document's contents not to the translation
- OR **APOSTILLED** (the apostille is only available for the signatory countries to the Hague Convention)
- OR **ACCOMPANIED by CIMEA Statement of Verification**

PLEASE NOTE: it is not mandatory to have the Legalization/Apostille/Statement of Verificatio, if not available yet, during the online application, but <u>it will be necessary to produce it in original and deliver it by the enrollment deadline</u>.

5) **transcript of records** (list of and relevant marks) issued in English/Spanish/French or officially translated in Italian

6) **IF your title HAS NOT been obtained** in one of the Countries that are signatories to the Lisbon Recognition Convention

- **Declaration of Value (DoV)** issued by the Italian embassy/consulate
- OR **CIMEA Statement of Comparability**
- OR **Diploma Supplement** (if the foreign qualification is issued by an european university).

IF your title HAS been obtained in one of the Countries that are signatories to the [Lisbon Recognition](#) [Convention](#)

- **Statement of Correspondence** which can be downloaded from the Automatic Recognition Database (ARDI)

PLEASE NOTE: it is not mandatory to have the DoV/Statement of Comparability/Diploma Supplement/Statement of Correspondance if not available yet, during the online application, but it will be necessary to produce it in original and deliver it by the enrollment deadline.

Date …………………………………………

Signature ……………………………………………………………………